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LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. XIV.

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Case illustrating the Use of Galvano-Cautery. — GENTLEMEN: I bring before you the patient upon whom I operated eight weeks ago, for malignant disease of the tonsil. Attached to the palatine arch posteriorly, there is already a recurrence of the disease, but in a more rapid form than the original. In character it is soft, succulent, and cellular, and not in a condition for removal. But I shall cauterize it by means of the galvano-cautery. I advise the patient not to take ether because of the danger of its ignition in the pharynx. Here are the scars, quite healed, of the first operation, the result of which has been a slight loss of power in the lower lip, but no other paralysis.

By means of a loop of platinum wire, which I pass around the growth, I now remove the greater portion of it, the loop having by its intense heat left a clean surface without drawing one drop of blood. I now proceed to kill the remains of the morbid excrescence with a white-hot point composed of twisted wire. I puncture in all directions, and by this form of treatment do not cause nearly so much pain as I should in using the nitrate of silver. It is also very useful and very satisfactory in cases of hæmorrhoids, of which the next patient affords an illustration.

Hæmorrhoid. — This middle-aged woman came to the hospital for some rectal trouble, said to be piles. As yet I have made no examination. I now find a small external hæmorrhoid, which, as you see, might be easily removed with the scissors. But since we have the galvano-caustic battery in readiness, we will use that. Inside the sphincter muscles, excepting a slight irritation and ulceration, there is no trouble whatever. With the finger in the vagina it is easy to push out and into view the rectal mucous membrane. You observe that it looks very well. I see no other masses. The only additional thing of which the patient complains is ruptured perinæum. But so much repair has taken place that nothing more is required. I operate simply by throwing a loop of wire around the growth, and then, making connection with the battery, I gradually draw upon this loop, — now red hot, — and the pile is quickly burned off, leaving a dry and clean surface. I use this case only as an illustration of the usefulness of the battery. As previously remarked, the pile might easily have been snipped off with scissors. But the throat case could not in any other way have been so thoroughly treated.

Prostatitis and Abscess. — With this young man we complete the list of the urinary cases which have come before us this winter. We have had every disease of the urethra, and, with one exception, have had every operation, the exception being internal urethrotomy. We have been able to show you the treatment of retention by aspiration over the pubes, by tapping through the rectum, by the straight knife thrust through the perinæum (Cox's operation); the treatment of stricture by gradual dilatation, divulsion, and by perineal section; phymosis, paraphymosis, and the operation for stone in the bladder. We now have a case of prostatic abscess.

We have here a young man in a debilitated condition, who is a hotel waiter, and therefore is on his legs all day long. Four weeks ago he contracted a gonorrhœa, and, being anxious to keep his situation, he used some form of abortive treatment upon himself, and thus converted a simple gonorrhœa into this condition. He has several times called at my office, and finally consented to come here. He told me that after he had used the abortive injection blood began to flow; he was forced to urinate very often, this lump soon formed, and tenesmus came on. He can pass water with difficulty, but cannot defæcate. One week ago he came here, and Dr. Bowles passed a catheter. There could not, therefore, at that time have been much stricture. What is the explanation of the patient's condition? Imagine a cold in the head. In the first stage there is congestion; the mucous membrane is full, injected, and tense, and the patient feels as if there were a nasal stricture. Now transfer these conditions and similar sensations to the urethra; the patient knows what is coming, and runs for a strong injection. If in the early stage of nasal catarrh we were to throw a strong solution of nitrate of silver up into the nose, what would follow? Why, *inflammation*, even up into the frontal sinuses. So in gonorrhœa harsh treatment will lead to stricture, retention, irritable bladder, and to abscess, which generally pushes up in front of the triangular ligament, into the scrotum and upon the abdomen. In this particular case we do not find such a result, but here is a hot, hard, red lump prominent in the perinæum, and lying between the rectum and the prostate gland, which by pressure posteriorly prevents a movement of the bowels. Hardly anything else could create this condition, except a fall astride of some hard body, which might set up abscess of the perinæum. I remember one case, however, of a slender young man who, as I believe, developed a perineal abscess by prolonged riding upon a velocipede. This is so rare that it would not occur once in a hundred times.

In this case I expect to find pus, but will first attempt to pass a catheter into the bladder. If the difficulty here were simply a cellulitis, the patient would be spared a worse trouble. If due to urinary infiltration, then we shall eventually have a fistula. The gonorrhœal secretion is still evident and plentiful, showing that inflammation exists along the urethra. The catheter passes with comparative ease, and I find no connection between the abscess and the urethra. Therefore, the case promises well, and the patient may escape with only an external abscess. It is proper to keep the catheter in the bladder while we open the abscess. I expected pus, and, having made the incision, here you see it. I find this is a prostatic abscess, which has formed between the membranous portion of the urethra and the prostate gland, leads down to the perinæum, and may rupture into the rectum. Since it has no connection with the urethra which we can discover, the treatment will consist in poulticing the abscess, and keeping it in a discharging condition. We shall also treat the gonorrhœa with copaiba and demulcents. In reality the affection is a prostatitis caused by strong injections which have set up inflammation in the urethral neck of the prostate, and from which it extends backward and forward.

[NOTE. Five days later, urine began to leak through the abscess.]

Glandular Abscess. — In the superior carotid triangle of this patient is a swelling which has existed several months, and is steadily increasing in size. It may be a wen. I have some doubt as to what it is, but think it is one of a chain of glands, because the glands behind the sterno-cleido-mastoid muscle are also enlarged. If it prove to be a cyst I shall excise it. If it be a mass of glands with ulcerating centres I will enucleate them. In a leucocythæmic patient removal of the glands should be one remedy, if we may believe the theory of Virchow, which is that the glands are manufactories which throw white corpuscles into the blood. Enucleation of the enlarged glands, then, would aid in preventing an increase of the leucocythæmic condition. In some cases, after excision, the glands reappear with much rapidity. I recall the case of a boy in whom extirpation of the glands was followed by enormous enlargement of the axillary glands, and eventually was the cause of death.

I incise this swelling and find pus, which would not be the case if this were an ordinary wen; such a cyst would be filled with cheesy masses.

On exploration I discover that this is an agglomeration of enlarged glands broken down into a purulent cavity, which has an outlet in an upward direction. I shall therefore freely open the swelling. Having done this, I can see that the bottom is composed of softened tissue and sloughing lumps, which being turned out leave a large cavity containing broken-down glands, which will suppurate and slowly heal over.

The after-treatment will consist of cod-liver oil and iron.

Wen. — The next patient, a female, presents a good illustration of the other form of swelling, — I mean the wen. It is on the scalp, and you can readily see the difference between it and the swelling I have just opened. As you probably know, a wen is an obstruction of a hair follicle. It has the peculiarity of appearing in crops; that is, where there is one wen, there will generally be found several others.

The treatment requires evulsion of the sac; otherwise the wen will return. In removing wens from old people caution is needed, because of the danger of erysipelas.

In this case I find one large and one small wen. I have seen one of such immense size that it hung down the neck; something not seen nowadays, for the wen is usually brought for treatment early in its growth. The patient has previously had four of these tumors removed. No ether is needed. The first incision should split the wen through. The contents, as you see, are cheesy. I now dissect out the sac. The incision will do better without sutures; we simply draw the lips together, and apply compression by means of a sponge.

Fatty Tumor of the Back. — Here is a soft, lobulated, movable mass beneath the skin and over the ribs, just below the angle of the scapula. It is probably a fatty tumor, — a mass of fat developed in the cellular tissue.

The treatment is incision and enucleation, partially by tearing. The tumor should be brought away whole. The locality of the growth affords convenient opportunity to use the antiseptic treatment, which I shall adopt. Under the spray I make an incision in the direction of the upper layer of muscular fibres, namely, obliquely toward the shoulder. With a little dissection the tumor is easily removed. You will notice that this form of tumor has a capsule, which envelops the growth, and from which, also, it can easily be torn. In this case it has reached the aponeurosis of the muscles of the back, which are here revealed.

The vessels I partly twist, and partly tie with carbolized catgut. I put in a drainage tube, and close the wound with carbolized silk sutures. The Lister dressing is now to be applied.

[Note. One week later this patient was exhibited, with the wound closed by first intention, except at the point where the drainage tube came out. Neither inflammatory redness nor pus were to be seen. The patient walked into the amphitheatre in good health.]

THE LIMITS OF PERCEPTION OF MUSICAL TONES BY THE HUMAN EAR.

BY LAURENCE TURNBULL, M. D.,

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In many cases of ear trouble it is desirable to have means of determining the acuteness of hearing, both for ascertaining the present condition of the aural apparatus, and for the establishment of data that shall be sufficiently accurate to determine and record the progress of the patient from day to day, and to establish a standard of comparison with other cases. For this purpose the steel rods of Dr. König, of Paris, afford in many respects the most readily available and convenient means either for clinical or office use. The rods employed by me in these experiments were made of choice, white, tempered steel, under the direction of Dr. Clarence J. Blake, of Boston, and have proved perfectly satisfactory. These are held suspended by a silk thread, either close to the ear, or at a definite distance, say thirty-five feet, from the patient, and then tapped on the end with a little steel hammer, which causes a clear, ringing over-tone like a bell. They are two cm. in diameter, and from one to four inches in length, so that they regularly increase from twenty thousand to sixty thousand vibrations in the second, according to their size. This method of examination only determines the limit of the power of perceiving musical tones, or what is technically called the pitch; it is not intended to supersede the tuning-fork, or the ticking of a watch, or even the use of the voice, which determines the power of recognition of the quality and of the intensity of sounds.

In Savart's classical experiments with the toothed wheel, the *lowest* distinctly musical note was determined to be one of eight vibrations in a second; the *highest* was estimated at twenty-four thousand vibrations per second. Helmholtz fixed the lowest limit at sixteen, and the highest at thirty-eight thousand. Vierordt considered the highest to be forty-eight thousand, and Desprets as seventy-three thousand seven hundred. Dr. Blake found the perceptive power of the normal ear to vary considerably with the age, being greatest at the age of twelve or thirteen years, and diminishing in advanced life.

From a number of experiments made some years ago,[1] and those I have made since, I have obtained some interesting results. In the first place, my extended experience with this means of testing the acuteness of the hearing has further confirmed me in my preference for König's rods. In using them I observe the precaution to have their temperature at different observations to correspond as nearly as possible, in order to prevent any source of fallacy from their change in shape.[1] In the second place, the tympanum should always be previously examined, and if any morbid condition exists it should be entered in the notes in recording the observation; of course, if the canal be obstructed by cerumen or any morbid growth, no satisfactory determination can be made until after it is cleared.

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[1] See Proceedings of the American Association for the Advancement of Science, Hartford meeting, August, 1874.

Observing these precautions, I have found that the averages of each set of my experiments, while they varied slightly from each other, were generally higher than those of Dr. Blake. In one case sixty thousand vibrations were heard by a gentleman twenty-six years of age, who was a skilled musician, and another gentleman, with a trained ear, distinguished the same tone; in quite a number fifty thousand were readily detected; in others twenty-five thousand was the extreme limit of perception. Many who were found to fall far below the average had never suffered from ear trouble, and believed their hearing to be perfectly normal. It would appear that there are a certain number of persons who are naturally insensible to sounds above a certain pitch, just as there are some who cannot distinguish between different-colored rays of light of high refractive powers, — that there is a Daltonism of the ear as well as of the eye. The analogy existing between the ability to recognize colors and that of discriminating between different musical tones has been frequently observed, and Dr. Pliny Earle [2] has collected an interesting series of cases, in which the two defects coexisted in the same individual (that is, where a person who was color-blind also had "no ear for music"). Apart from these exceptional cases, I have concluded from a number of observations that education of the ear has much to do with the acuteness of hearing; this is so true that a person who first tests his hearing with the rods may find that he is unable to distinguish tones higher than a certain pitch, say thirty thousand per

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[1] Nor should it be overlooked that the conducting power of the air is greatly affected by its temperature. It will be interesting in this connection to compare the results obtained under different temperatures. If air be heated it expands and becomes lighter, and the sound travels more rapidly than through cold air. The late M. Wertheim determined the velocity of sound in air of different temperatures as follows: —

Temperature of Air.			Velocity of Sound.
1.5°	Centigrade	(34.7° F.)	1089 feet.
2.10	"	(35.8° F.)	1091 "
8.5	"	(47.3° F.)	1109 "
12.0	"	(53.6° F.)	1113 "
26.0	"	(78.8° F.)	1140 "

At a temperature of one degree and a half above zero, the velocity is 1089 feet a second; at a temperature of 26.6 degrees it is 1140 feet a second, or a difference of 51 for 16 degrees, that is to say, an augmentation of velocity of about two feet for every single degree centigrade. Augmentation of density always produces a diminution of velocity.

[2] Am. Jour. Med. Sciences, vol. xxxv., from Carpenter's Physiology, page 792. Philadelphia, 1876.

second; but in the course of an hour or so, if he practice with them continually, he may distinguish thirty-five thousand without especial difficulty.

Cases then divide themselves in their acuteness of perception of high tones into three classes: (1.) Ordinary patients, or hospital cases from the lower walks of life, all of whose perceptions are more or less dulled, the ear being no exception. (2.) Cultivated and refined people, who have no special musical training. (3.) Skilled and professional musicians.

Physicians whose ears have been trained in auscultation and percussion, so as to recognize nice distinctions of pitch, would form a class intermediate between two and three. The fact that my observations have been, in a late series of experiments, made largely upon professional men will explain why the general results are higher than those of other observers. I have in another place [1] called attention to the painful character of the impression made by these high tones in some cases. Indeed, an annoying tinnitus may result and continue for several hours, or longer.

In the following series the subjects were all scientific men, either physicians or students. The rods were held within two inches of the ear; their temperature was about 70° F. The observations were conducted in a room remote from noise; weather cloudy and drizzling.

	Years.	Initial.	Vibrations.	
From 20 to 30	22	G. H. R.	50,000	
	23	A. De W.	50,000	
	24	D. J.	55,000	
	24	J. M.	40,000	
	24	J. M. S.	35,000	
	24	H. F. S.	55,000	M.[3]
	25	J. M. B.	50,000	M.
	26	J. E. F.	40,000	
	26	A. O.	45,000	
	26	H. P.	60,000	
	28	I. O.	40,000	
	29	J. S. T.	40,000	
	29	C. M. T.	45,000	
	30	F. W.	40,000	
	30	J. E. W.	45,000	
	30	C. S. T.	40,000	
	30	W. S. L.	50,000	
	30	G. A. N.	30,000	
From 30 to 50	32	G. McC.[2]	35,000	
	36	J. R.	40,000	
	39	W. K.	50,000	M.
	47	J. A. M.	40,000	
	48	R. M. S.	40,000	
Above 50	52	E. R.	45,000	
	57	L. T.	30,000	

It is of interest to note that in several of the cases where a marked difference was observed between the two ears that it was in favor of the left, with the single exception of the case of the gentleman who distinguished sixty thousand with his right ear who could get no higher than fifty-five thousand with his left.

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[1] Proceedings of the American Association for the Advancement of Science, Hartford meeting, August, 1874.

[2] Had ear trouble when a child; there was opacity and sinking in of membrane.

[3] M stands for musician.

The marked difference between the limit at twenty-two and that at fifty-seven years is believed not to be simply due to senile thickening of the membrana tympani, but also to a gradual narrowing and change of shape in the auditory meatus, together with alterations in the middle ear, and diminished susceptibility of the auditory nerve incident upon advancing years.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.[1]

BY R. H. FITZ, M. D.

PATHOLOGICAL ANATOMY.

Jaundice from Urobiline. — In 1857 a special form of jaundice was described by Gubler under the name "*ictère hæmophéique*," and characterized by the absence of ordinary biliary coloring matter from the urine. The clinical features of this form of icterus and its distinction from ordinary jaundice have recently been stated elaborately by Dreyfus-Brisac. According to him, the color of the skin is of a dirty yellow or pale yellow, without the greenish tint which is usually present in ordinary jaundice. There is neither itching nor a slow pulse; the stools are not clay-colored, and the urine is of an amber-yellow or brownish yellow, without any greenish tint, and stains linen of a pale salmon color. The nitrous acid test of Gmelin produces no specific reaction, and merely a reddish-brown hue results in the addition of nitric acid. Chloroform extracts from the urine a brownish-red coloring matter, which becomes of a rose color when acted upon by nitric acid.

This statement of two forms of icterus corresponds with the view which has long been entertained that a jaundice may exist independent of any direct participation of the liver, and due to the transformation of blood pigment which has been set free by the destruction of numerous red blood corpuscles, — a destruction expressed by the terms hæmatogenous and hepatogenous. Poncet was the first to demonstrate that jaundice follows extensive hæmorrhages, that the discoloration depends upon the modified blood pigment, and that the pigment eliminated with the urine is like the so-called urobiline.

Gerhardt[2] has also, for several years, repeatedly directed his attention to the examination of the urinary coloring matter in jaundice, and has come to the conclusion that when the urine from cases of icterus does not give the ordinary reactions of biliverdine, its dark color is usually due to an abundance of urobiline. As Poncet's experiments show that the occurrence of extensive hæmorrhagic extravasation gives rise to a jaundice from urobiline, therefore there can be no question of the existence of a hæmatogenous form.

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[1] Concluded from page 715.

[2] Correspondenz-Blatt des allgemeinen ärztlichen Vereins von Thuringen, 1878, xi.; Allgemeine medicinische Central-Zeitung, 1878, xcv. 1187.

When icterus results from the simple closure of the common bile duct, the urine shows the presence of bilifulvine. In certain diseases of the liver, especially in cirrhosis, the jaundice is caused by bilirubine. The latter usually occurs in cases of heart disease, lead colic, and frequently takes place in pneumonia, hæmorrhagic infarction of the lungs, and acute alcoholism. Mixed forms are of frequent occurrence, and in nearly every case of catarrhal jaundice bilifulvine alone is present in the urine at the height of the disease; but as improvement takes place the presence of this pigment becomes less, while that of urobiline appears; finally, only the latter is evident.

The diagnostic importance of the occurrence of jaundice from urobiline is thus evident, especially as indicative of internal hæmorrhage; and it is also suggested that in icterus neonatorum the pigmentation is likely to arise from the hæmorrhagic accidents of birth, as the cephalhæmatoma and internal ecchymoses.

Diagnostic Value of the Puncture of Abdominal Cysts. — Spiegelberg[1] calls attention to the relative frequency of the occurrence in ovarian cysts of contents which have generally been regarded as characteristic of parovarian cysts, such contents being a neutral fluid of low specific gravity, poor in albuminates and morphological constituents.

Although in retention-cysts of mucous canals the character of the fluid changes from a viscid to a thin, watery liquid, this transformation meets with a plausible explanation in the alteration of the epithelial lining of the cyst from the constantly increasing pressure upon the inner surface. The specific secretion is thus no longer formed, and a simple serous fluid exists which does not spontaneously coagulate so long as the epithelial lining remains intact, though without specific function.

In the ovarian cyst, however, there is not a simple retention of the material discharged from the wall, but the constituents of the wall grow in proportion to the increase in the volume of the tumor; and while this relation takes place the epithelium continues to produce a gelatinous material. With the cessation of the growth of the wall there is no longer this constantly changing relation between epithelium and contents, but the former becomes short and flattened, and ceases to produce specific contents. The condition of the cyst thus resembles that of the retention-cyst previously referred to. Consequently, the cysts which furnish a thin, serous fluid are to be considered as those whose growth and productiveness are at a stand-still.

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[1] Archiv für Gynäkologie, 1879, xiv. 175.

Such a stage may be very early reached in the simple ovarian cysts, especially in the dropsical Graäfian follicles, and the cysts of the broad ligament. It may also take place early in single cavities of a multilocular cystoma, so often apparent in the examination of neighboring cavities, some of which contain a thin fluid, others a slightly viscid liquid, while others, again, have firm, gelatinous contents.

This recognition of the frequent thin, watery contents of an ovarian cyst has a decided therapeutic value; for when the puncture permits the complete escape of such a fluid no farther operation should be undertaken, whether the cysts are ovarian or parovarian, as such cysts may subsequently become obsolete, like retention-cysts, if the puncture is made with antiseptic precautions. Extirpation should only be performed when the cavities refill, an event which is probably in all cases the result of an inflammation of the inner surface, occasioned by the puncture.

Tyrosine in the Sputum. — The presence of crystals of tyrosine in the sputum has been recorded by Leyden,[1] who states that two additional cases showing this peculiarity have since come under his observation.

The last two patients were suffering from chronic empyema with perforation of the lung, and in one case leucine, as well as tyrosine, was found in the sputum. The bundles of acicular crystals of tyrosine readily became evident after simply drying a few drops of the purulent sputum upon a glass slide.

It is well known that both leucine and tyrosine are met with in pus, and that they have been found in the exudation in empyema. It therefore becomes of interest to ascertain if any diagnostic importance can be attached to the presence of one or both of them in the expectoration. The fact that tyrosine may be present in the pus of course furnishes no evidence of the origin of the latter, unless it can be determined that the crystals are not seen in considerable quantity in pus which arises in the lung. It is also possible that the crystals may have formed within abscesses, which, arising in other parts than the pleural cavity, eventually communicate with the interior of the lung.

It is furthermore important to determine whether, in all cases of empyema with perforation of the lung, these crystals are always detected, or whether their presence is limited to the more chronic forms, with a certain degree of decomposition of the exudation.

Leyden has sought for tyrosine in a number of cases of abscess of the lung, of putrid bronchitis, and of subacute and chronic pulmonary gangrene, but without success. In the chemical examination of putrid sputum, traces of leucine and tyrosine have been observed by Jaffe, but in the cases reported by Leyden large quantities have been found, and by very simple means. It is his conclusion, therefore, that in accordance with existing observations the presence of leucine and tyrosine in the sputum suggests as most probable the existence of a chronic empyema with perforation.

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[1] Virchow's Archiv, 1878, lxxiv. 414.

Permanent Obliteration of Ligated Vessels. — The changes produced in blood-vessels by ligatures and in consequence of thrombi have long been the subject of experimental investigation, and the method of organization of a thrombus and the manner in which a vessel becomes obliterated have been rendered sufficiently clear by the numerous careful and critical observations of recent workers.

The results have generally been obtained from experiments upon the lower animals, but Raab[1] has made use of a considerable quantity of material derived from man to form an opinion of the nature of the process resulting in the obliteration of the vessels of the human species.

It appears from his investigation that there is no essential difference in the nature of the process from that taking place in the lower animals, and that an inflammatory proliferation of the endothelium and the other layers of the wall of arteries and veins takes place in consequence of the irritation of the ligature and the accompanying wounding of the adjoining soft parts. Therefore a permanent closure of the ligated vessel takes place rapidly and safely only when vessels are healthy; if they are atheromatous, there is either no healing or the process takes place with difficulty. The new-formed tissue which closes the canal of the vessel is at first very cellular and juicy, but later becomes transformed into a dense fibrillated connective tissue. The different layers of the wall also lose their peculiar structure, and finally the obliterated end of the vessel becomes converted into a fibrous cord. A thrombus is not essential to the process, and when present there is no evidence of its organization, but it disappears with the advance of the tissue produced by the wall.

Nodular Periarteritis or Multiple Aneurisms. — Meyer[2] calls attention to a curious combination of lesions and symptoms which has occurred in a sufficient number of cases to demand general attention. One was reported by Kussmaul and Maier under the term periarteritis nodosa, and was characterized by the prominent symptoms of rapidly advancing chlorosis, wasting, albuminuria, and a progressive general paralysis, with muscular pains. Death took place after a few weeks, and diffuse nephritis, with infarction, necrotic enteritis, and extensive granular degeneration of the voluntary muscles were found, associated with a peculiar thickening, usually in the form of small nodules, of numerous small arteries, not larger than the coronary arteries of the heart.

The arteries chiefly affected were those of the intestines, stomach, kidneys, spleen, heart, and voluntary muscles; the arteries of the liver, subcutaneous tissue, and the brachial and phrenic arteries were similarly diseased, but to a less extent.

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[1] Virchow's Archiv, 1878, lxxiv. 277.

[2] Virchow's Archiv, 1879, lxxv. 451.

It was thought that the changes in the kidneys, intestines, and muscles were secondary to and a consequence of the vascular disturbances Meyer's case was quite analogous, and the absence of any disease of the central vessels in both cases is noteworthy, as excluding them from the series of cases which Charcot and Bouchard have described as miliary aneurisms. Other observations of multiple aneurisms have occasionally been reported, but in only three instances are they regarded as similar.

The patients were all young, males, accustomed to laborious muscular work, and it is suggested that a life of excesses may have been instrumental in producing the disease. Although Meyer's patient was syphilitic, there is no evidence that this disease existed in the other cases.

The study of the arteries was very suggestive as to the essential characteristic of the disease, and as to the origin of circumscribed aneurisms in general.

A common factor in the appearance of the aneurisms was the rupture of the vessel-wall. Other associated alterations, as thrombi, hyaline masses, new-formed tissue, even cellular infiltration of the adventitia and dilatation, were inconstant, and therefore to be regarded as secondary. The rupture of the wall affected either the entire thickness of the middle coat, or a portion of it, and it seemed quite likely that a complete rupture of the vessel-wall was the result of repeated partial ruptures. The various aneurisms had evidently taken place at different periods, as was manifested by the varying nature of the secondary changes associated with them. In this examination of numerous small aneurisms it was impossible to find any evidence of inflammatory changes in the media or in the adventitia; there was merely a rent in the middle coat. Although the nodules of the smallest arteries showed a cellular infiltration of the adventitia and surrounding connective tissue, such evidence of inflammation could not be regarded as primary, for it was often absent when aneurisms were present, and present when there was no laceration of the middle coat. Hence these miliary nodules also furnished as the single constant, therefore probable primary condition, a rupture with simultaneous dilatation. The histological examination of these aneurisms thus favored the view that a primary rupture of the media, independent of any inflammatory softening, is the cause of spontaneous aneurisms.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

DECEMBER 8, 1877. *Two Cases of Irregular Contraction of the Uterus in the Third Stage of Labor.* — DR. WELLINGTON reported the cases: —

CASE I. The first was that of a primipara, whom he found at midnight with a dilating os at the beginning of labor. At noon following the head was resting on the perinæum. The pains had ceased, and there was no further progress. There was no impaction. Delivery was then easily effected by the forceps. The after-birth did not follow, and, after waiting twenty minutes, Dr. Wellington passed his hand into the uterus, and found at the upper part a constriction with a small opening, beyond which was an upper chamber completely filled by the entire placenta. It was adherent, and was got away with difficulty. There were no serious after-troubles.

CASE II. In the second case a breech presented, and was coming down well with good pains. After a while the pains began to slacken, and finally nearly ceased, and progress was arrested. Ether was then given, the hand was passed up, and the child delivered without difficulty. Another child was then found in the uterus. After waiting a while, the hand was passed up, the membranes were ruptured, and the second child was delivered. After a pause, the after-births not coming, the hand was again passed up; they were peeled off (they were united), and extracted apparently entire. The uterus seemed to be well contracted. Soon there was complaint of severe after-pains, and the woman became faint. Dr. Wellington found the uterus full of clots, and cleared them out completely, and in so doing discovered an irregular contraction, above which was a small cavity which contained a small piece of the placenta. This was got away, the uterus contracted well, and there was no more hæmorrhage. Rum, the only convenient stimulant at hand, with ergot was administered freely. The woman did well. To recapitulate: in the first case, the whole after-birth was included in an upper chamber, was got away with difficulty, and there was no hæmorrhage. In the second case, a little bit of the after-birth was inclosed, and was removed after severe flowing. In regard to these irregular contractions, Dr. Wellington said he believed they were not uncommon, but that he had never met with what is properly called hour-glass contraction with uniform division of the parts of the uterus. He was inclined to think that in a great proportion of cases of hæmorrhage after delivery a portion of the placenta may have been kept back.

In answer to a question, Dr. Wellington stated that ergot was given in both cases: in the former immediately after the birth of the child; in the latter, whether before or after the delivery of the placenta was not remembered. — DR. RICHARDSON said he thought one ran the risk of getting irregular contraction of the uterus by giving ergot before the uterus was empty, especially if the placenta had been already partially dislodged from its position on the uterine wall. — DR. LYMAN replied that it was certainly a very common practice to give ergot before the head is fairly delivered, and that the cases were very rare in which irregular contraction had been thus produced. — DR. RICHARDSON remarked that if we were sure the placenta were morbidly adherent it would not make so much difference when the ergot was administered; but that, under ordinary circumstances, it would be better to wait till the hand in the vagina found the placenta escaping through the os, or until the placenta had been expelled. — DR. INGALLS stated that it was his custom to give ergot as soon as the child was born, by way of precaution. He had never seen any evil results from this course. He also said that he thought, when the subject of ergot was discussed several years ago, that it was a tenet that the drug should be given while the child was coming into the world, so that misadventure by flooding should be avoided. Since adopting the plan of giving ergot at the birth of the child, he had had no trouble with the placenta, nor special delay in its delivery. — **Dr. Richardson** related a case in which ergot was given when the placenta was morbidly adherent over a greater part of its surface. In consequence of the action of the ergot it was very difficult to get the hand into the uterus at all. There was, however, no irregular contraction.

Placenta Prævia. — **Dr. Tuck** reported the case, which is reserved for publication. — **Dr. Minot**, in reference to the accident which happened in the case reported by Dr. Tuck, gave an account of the case of a patient who miscarried between the sixth and seventh month. The breech presented. In extracting, the body came away, leaving the head inside the womb, which closed over it. No attempt was made at immediate removal, and the case was left to the natural efforts. The next morning the head was found in the vagina, whence it was easily removed. There was no hæmorrhage. In answer to a question, Dr. Minot said the placental forceps might have been useful in this case. — **Dr. Tuck** stated that he found no difficulty in getting the forceps on to the separated head, which was retained by the contraction of the womb and the extreme smallness of the vagina. In applying the instrument the head was steadied from the outside by an assistant. From the first to the third month of gestation in this case there was a constant flow of milk from the breasts, so that cloths were required to prevent the soiling of the dress.

A Complete Set of Obstetrical Implements in a Portable Case. — **Dr. Richardson** exhibited and described the case, which he had devised for his own use, and which had been made by Arnold, of London. It was a modification of Barnes's case; the centre, between the two opening sides, being occupied by a large case, so placed on a hinge as to be easily moved into a position at which its contents could be handled.

Fibroid Tumor removed from the Uterine Wall by Enucleation. — **Dr. Minot** read the case, and exhibited the specimen.

The patient, an unmarried woman, a domestic, entered the Massachusetts General Hospital April 12, 1877. Her health previously to the present disease had always been good. She began to menstruate at the age of fifteen, and had always been regular every four weeks, the flow lasting three days.

About January 1, 1875, she first noticed a small "lump" above the pubes. In the following October she had a stoppage of urine, which had to be relieved by the catheter; this recurred once or twice, and about the same time there was much frequency of micturition, especially at night; but these symptoms soon disappeared, and never returned. For a year before her entrance she noticed that at every third menstrual period she flowed very much, especially about January 1, 1877. A very abundant hæmorrhage also occurred about April 1st, just before her entrance into the hospital, when the patient estimated that she lost nearly a quart of blood daily for several days, with clots. She was pale, and a good deal exhausted. Pulse 93. There was much prominence in the hypogastrium, the enlargement extending up as far as the umbilicus; this was caused by a hard, lobulated tumor, which was found by vaginal and rectal exploration to almost completely fill the pelvis. The sound entered about eight inches, with a strong anterior convexity, between the tumor and the anterior wall of the uterus. The cervix was obliterated, and the os, very small, was found with difficulty. The tumor could be freely moved between the finger in the vagina and the hand over the abdomen. There was no great tenderness about the tumor.

The treatment was begun by administering thirty drops of fluid extract of ergot three times daily, the dose being gradually increased to one drachm. She continued the medicine with but little interruption throughout the treatment. It acted satisfactorily, causing no severe pain, but only a feeling of "bearing down." The effect on the tumor was very decided; the mass began to descend, and to press on the lower segment of the womb. May

18th, the catamenia came on, the bleeding being so profuse that it was deemed prudent to pack the vagina with sponges. May 22d, the lower part of the tumor, still inclosed in the uterus, was very near the external outlet. The os uteri was now nicked in several places, and a large incision was made through the capsule of the tumor. There was some difficulty in urinating, requiring the catheter. Considerable offensive discharge began, which continued throughout, treated by frequent injections of solution of carbolic acid. May 27th, another deep incision was made into the tumor. June 4th, the tumor was felt through the os uteri to be soft, shreddy, and disintegrating, and portions were extracted by forceps. June 9th, a pretty large amount was removed piecemeal. June 15th, the body of the tumor was seized with strong double hooks, turned out of its bed, and removed in two portions, each of the size of the fist. No acute symptoms followed. On the following morning the patient was comfortable, the os uteri was closed, and no tumor could be felt externally or internally. July 13th, the sound entered about three inches. The patient sat up all day July 4th, and on the 10th walked in the garden. There was a slight discharge for several days, which wholly ceased before she left the hospital, July 21st, on which day the record says, "She has not fully recovered her strength, but takes long walks daily; she eats heartily."

The patient called to report August 20th. She had nearly recovered her strength, and was otherwise quite well. She had menstruated once, naturally in all respects. No tumor could be found; there was slight tenderness over the ramus of the pubes, on the right side; the cervix was of normal size, and movable; the os was fissured and firmly closed. The sound was not used.

During the treatment the patient had twice a rigor, of a few minutes' duration, but no other acute symptom. The temperature remained normal, and the pulse moderate. There was never any severe pain. The most prominent symptom was prostration, for which, of course, nutritious diet and tonics were freely given. She objected so strongly to stimulants that they were used very sparingly. The intra-uterine injections of solution of carbolic acid, which were so important to the success of the treatment, were carefully administered by the house pupil, Mr. (now Dr.) Edward Chauncy Booth.

Dr. Lyman spoke of the fact to which Atlee called attention many years ago, that incision for enucleation generally arrests the hæmorrhage. — **Dr. Minot** said that he had found this to be the case. — **Dr. Wellington** referred to a case of very large uterine fibroid which he had first seen twenty-five years ago, and which, after a ten years' absence of the patient in the State of Illinois, he found to have diminished to one half its former size. — **Dr. Lyman** remarked that these tumors would sometimes grow for a while, and then cease growing, and remain indefinitely long without any notable change. He gave a case illustrative of this course.

KLEIN AND NOBLE'S HISTOLOGY.[1]

It would be difficult to speak too highly of the admirable plates representing blood and epithelium in the number before us. Many of the illustrations are colored, and all are clear and good. There are also several cuts in the text. The description of the figures and the remarks on the tissues are very satisfactory. We hope to be pardoned for quoting and expressing our concurrence in Klein's statement concerning the colored blood corpuscles of vertebrates: "In no instance have they when fresh a limiting membrane."

The second part more than confirms the favorable impressions which we received from the first number of this work. The four plates which it contains are admirable, and the text very good. Endothelium and connective tissue corpuscles are discussed. It is no easy matter to give a satisfactory definition of endothelium. We have sometimes been tempted to say that is epithelium derived from the mesoblast; but embryology is by no means sufficiently understood to make such generalizations legitimate. There is at least a possibility (perhaps we should say a probability) that important structures are not in all vertebrates derived from the same layer of the blastoderm. While this uncertainty continues the definition of endothelium must be more or less arbitrary. Klein begins Chapter III. as follows: "Endothelium is understood to be the layer of flattened cells lining the free surface of any membrane, or cavity, or canal that is *not* a mucous membrane, or that is *not* the cavity or canal of a secreting gland respectively." This is certainly an ingenious way out of the difficulty. The word "flattened" before cells excludes those lining the central canal of the cord, which otherwise would have to be put among the exceptions to the rule.

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[1] *Atlas of Histology.* By E. Klein, M. D., and E. Smith Noble, M. R. C. S. Parts I. and II. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1879.

The description of the various kinds of endothelial cells and of the methods of showing them is very satisfactory. Dr. Klein very properly introduces his views of germinating endothelium around stomata. It is to be regretted that there is a discrepancy between the text and the numbering of the figures in Plate VI. It is, however, merely a blemish in the execution of the work, and the errors are easily rectified.

The chapter on connective tissue corpuscles is equally good. A great variety of corpuscles are shown by several methods of preparation. Those of the cornea are finely shown with chloride of gold, while the "negative" of the picture, that is, the spaces inclosing the cells, are shown by nitrate of silver.

This work does not aspire to be an elaborate treatise on histology, but the authors are too modest (a rare fault) in calling it simply an atlas. The text is not merely a description of the figures. It shows the significance of the appearance with a clearness which is not often found, — which, indeed, is just what many more ambitious works lack, — and is therefore doubly grateful to the student. T. D.

SMITH ON THE DISEASES OF INFANCY AND CHILDHOOD.[1]

THIS excellent work is so well known that an extended notice at this time would be superfluous. The author has taken advantage of the demand for another new edition to revise in a most careful manner the entire book; and the numerous corrections and additions evince a determination on his part to keep fully abreast with the rapid progress that is being made in the knowledge and treatment of children's diseases. By the adoption of a somewhat closer type an increase in size of only thirty pages has been necessitated by the new subject matter introduced.

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[1] *Diseases of Infancy and Childhood.* By T. LEWIS SMITH, M. D., Clinical Professor of Diseases of Children in Bellevue Hospital Medical College; Physician to the New York Foundling Asylum, and to the New York Infant Asylum; Consulting Physician to the Children's Class in the Bureau for the Relief of the Out-Door Poor; Physician to Charity Hospital, etc., etc. Fourth edition. Philadelphia: Henry C. Lea. 1879.

THE AMERICAN MEDICAL ASSOCIATION.

The meeting at Atlanta appears to have been characterized by an unusual smoothness and harmony, which speaks well for the working of the machinery now for several years in operation. We notice, however, that a standing committee "for the more efficient organization of the association" was appointed, the objects in view being a more intimate relationship of the national association with the various state organizations. One suggestion made in the series of resolutions accompanying this appointment we think an admirable one, namely, "the substitution of a periodical medical journal for the present annual volume of transactions." By taking such a step the association would do an admirable work in demonstrating the great value of a journal with a national circulation, and there is little doubt if the motion proved to be ably carried out, that the popularity of the association would thereby be greatly increased. We hardly believe that the association has a firm enough hold at present upon the profession to call forth any hearty coöperation from the state societies as is suggested.

The motion of Dr. Davis, aimed at those who instruct students about to become homeopaths, although animated by a most worthy motive, seems to us to be an amendment which it would hardly be practicable to carry out.

The stand taken by the southern members, as reported by Dr. Logan, chairman of the committee of arrangements, on the quarantine question, is a significant one, and we doubt not that the attitude of the profession at Atlanta has had much influence in effecting the final passage of a quarantine bill.

There was some complaint at the meeting of the association of editors at the position taken by certain journals in refusing to exchange with the cheap periodicals, but this was hardly more than was to be expected.

The next meeting will be held in New York, and with the energetic Dr. Sayre to "boss" it, will draw, we doubt not, a large and enthusiastic crowd.

McDOWELL'S MONUMENT.

On the 14th of this month ceremonies inaugurating the monument to Ephraim McDowell, the creator of the operation for Ovariotomy, were held at Danville, Ky., the former home of McDowell. Many eminent medical men were present, Dr. Kimball, of Lowell, representing Massachusetts. An eloquent address was delivered by Prof. Samuel D. Gross, of Philadelphia, who is claimed by Kentucky as one of her most distinguished sons.

Professor Gross began his remarks by alluding to the widespread grief which was caused by McDowell's death on the 20th June, 1830. By none was his loss more deeply felt than by the poor to whom he had ever been a constant friend. It was here, while an unknown physician in a quiet village, that he performed the great exploit which no one had ever performed before him, — an exploit condemned by many wise, enlightened surgeons as an outrageous, if not murderous innovation, but now admitted as one of the established procedures in surgery. The honor of its origin has been ascribed to

L'Aumonier, 1776; to Houston of Dublin, 1771. But these claims are unsupported by facts. McDowell's operation, done in 1809, was the original ovariotomy. The history of the operation was then given by Dr. Gross. It remained in actual obscurity until 1827, by which time McDowell had repeated it several times. It was then that his defamers honestly recanted their scornful disbelief in the success of such an operation performed in the backwoods of America. In all McDowell did the operation thirteen times, with eight recoveries, four deaths, and one failure due to inability to complete the operation because of extensive adhesions of the tumor. Allusion was then made by Dr. Gross to the great benefits which humanity has derived from this procedure. Interesting statistics of the operation as performed in America and abroad were given, eloquent mention being made of Kimball, the two Atlees, Spencer Wells, Keith of Edinburgh, Dunlap of Ohio, Peaslee and Thomas of New York, and others. The decreasing mortality of the operation, improvements in diagnosis, the vast strides taken in general surgery, were touched upon in a forcible and interesting manner. The details of McDowell's life; his early struggles; his conscientiousness; his success; his lack of confidence in the efficacy of drugs and his thorough reliance upon surgery as the most certain branch of the healing art; anecdotes of his professional years; his large charity and generosity; his boldness as an operator, were most eloquently given. Dr. Gross claimed for McDowell a well-deserved immortality and the gratitude of the professional world. The latter half of his oration was devoted to prominent Kentucky men who have passed away and to other American pioneers in ovariotomy.

An interesting feature of the occasion was the presentation to Professor Gross by Dr. Cowling of the brass door knocker which once was attached to McDowell's door.

THE NEW YORK COUNTY MEDICAL SOCIETY.

The county society has commenced the publication of the minutes of all its meetings since its organization in 1806, to be issued in monthly parts, under the editorship of Dr. A. E. M. Purdy, for many years secretary, and now vice-president, of the society, and to be distributed gratuitously to the members. The first part, comprising a record of the proceedings from the date of its foundation, July 1, 1806, to October 3, 1808, was published in April, and makes an attractive-looking pamphlet of sixty-four pages. There were originally one hundred and two members; but appended to the copy of the first by-laws enacted by the society there appear three hundred and twenty one names. Many of these are accompanied with a long list of titles and honors, sometimes in Latin and sometimes in English, and among the most noted of these are the following: —

Nicholas Romayne, Wright Post, Samuel L. Mitchill, David Hosack, Edward Delafield, Martyn Paine, and Valentine Mott.

There were quite a number of the members who had taken an active part in the war of the Revolution, and several who had been in the British service both before and during the latter. Thus one gentleman signs himself, "Native of Great Britain and Assistant Surgeon in His Britannic Majesty's Service in the year 1764 to 1769;" another (Dr. P. Turner), "Physician and Surgeon

General of the late Revolutionary War;" another, "Late Surgeon in the American Army;" another, "Late Surgeon in the Navey of his Majesty George III., the King of G. B.;" another, "Late assistant to the Health Officer N. Y. in 1797 and Surgeon American Artillery;" another, "Assistant Surgeon in his Britannic Majesty's General Hospitals in America from the year 1777 to 1783;" another, "Surgeon 5th Regiment N. Y.;" and there are many other instances of a similar character.

Among the members of foreign birth and education we find the following: Felix Parcalis (with many Latin titles affixed to his name); Gaetano De Angelis, of Naples; John W. Zeiss, "Late Surgeon in the Military Hospital of His Serene Highness the Prince of Hesse Cassel;" V. A. Servant Grangeae, "Montpeliensis universitatis Doctor nec non regius Sancti Domingui nosocomiorum medicus;" H. P. Servant Lafaye, "Surgeon in the French armies;" Chas. Guerin, "Physician of the 1st Class in the Hospitals of St. Domingo;" Otho Mouroy, "Member of the Medical Society of Goettingen, Kingdom of Hanover, and lately army Physician in H. Britannic Majesty's German Legions;" Lewis Saynisch, "Licentiatus Medicinæ et Chirurgiæ Academia Wurzburg (Bavaria);" and Jean Lequievie, "Late Chief Physician of the Hospital de St. Jacques, Paris."

One gentleman on the list does not wish it to be forgotten that he was "formerly Physician to the Bellevue Hospital during the Yellow Fever of 1795 and '6," and another bases his claim to immortality on the fact that he was "born on Shelter Island, State of New York;" while a third is content to have his name go down to posterity with the simple title "Botanicus." Valentine Mott was not one of the original members, but after presenting his credentials and undergoing an examination by the censors of the society he was duly admitted at the first quarterly meeting, held October 6, 1806. The society was originated, it seems, for the purpose of "regulating the practice of Physic and Surgery" in the county, and it was necessary that every medical man residing therein should be invested by it with "the privileges of practicing physic and surgery, and the rights and immunities usually enjoyed by physicians and surgeons," when he had given evidence that he had regularly studied medicine for the term and in the manner prescribed by law, and had passed a successful examination by its censors. At the first anniversary meeting of the society it was resolved, on motion of Dr. Hosack, who had consulted Mr. Thomas Addis Emmet (afterwards retained as permanent counsel to the society) in regard to those who were comprehended in the state law as constituent members, "that all Physicians and Surgeons resident in the county of New York on the 1st Tuesday of July, 1806, and authorized by law, on or before that day, to practice their several professions, be declared *ipso facto es de jure* original members of this corporation." The anniversary meeting was held on the first Monday in July, and the stated meetings on the first Monday in October, January, and April of every year; but beside these quarterly meetings, extraordinary ones might be called at any time, at the request of twenty members, in writing. One of the sections of the by-laws required that a fine of twenty-five cents should be paid for every absence from roll-call by a member. The first officers of the society were as follows: president, Nicholas

Romayne; vice-president, James Tillary; secretary, Edward Miller; and treasurer, Valentine Seaman. At one of the early meetings, in accordance with a series of resolutions passed, declaring that "a systematic arrangement and distribution of the pursuits and exertions of the members of the society would be conducive to the success of their labors, and to the consolidation and permanence of the benefits resulting therefrom," committees were appointed upon the following subjects: natural history, anatomy and surgery, midwifery, chemistry, botany, materia medica, institutes and practice of physic, library, museum, donations and communications, publication, and professional improvements.

For some months past the county society has had the minutes of its meetings printed and sent to every member within a week or two after they have been held.

THE TREATMENT OF HÆMORRHOIDS BY INJECTION.

Prof. Edmund Andrews, of Chicago, has recently investigated this subject with much care and labor. This plan of treating piles has been practiced extensively of late by itinerant quacks throughout the West. Professor Andrews has corresponded with these people, as well as with regular surgeons. Carbolic acid is the medicament chiefly used, the strength of the injection varying among operators from pure acid to one part to twenty of some incipient, as olive oil, glycerine, etc. Ergot is sometimes added. Creosote and persulphate of iron are used by a few. Professor Andrews has procured the history of thirty-two hundred and ninety-five cases, operated on by all sorts of people. Nine are said to have died from the effects of the operation; of these only four can, he thinks, be justly charged to the treatment. There were five cases of dangerous hæmorrhage, five of less danger; ten had abscesses; twenty-three had sloughing, mostly of the piles only; eight had suspected embolism of the liver, one abscess of the liver; two had stricture of the rectum; two had severe inflammation; seventy-seven had violent pains, lasting often for days; six were dangerously sick in bed from two to six months; one had permanent impotence; in one an injection caused dangerous carbolic acid poisoning; there were seven relapses, and eight failures to cure. Of the cases of death, one had large abscess, fever, and pyæmia, and died on the fifth day; the patient previously had good health. One had apparent embolism of the liver, torpid bowels, jaundice, large inguinal and axillary glands, and death occurred ninety days after the operation. One patient was a man of eighty-four years; the injection was made into the prostate gland; death took place in three days. A fourth case had a similar accident and result as the last. One case of great suffering was where the plan was pursued of tearing open the hæmorrhoidal veins with a bunch of needles. Great bleeding took place, intense suffering, and the family doctor was consulted. He found the quack had plugged up the opening made by his needles with a small cork. The operation of injection of piles is not painless, — only one patient in four so saying. Andrews thinks the operation is not as safe as that of the ligature. Of three thousand cases, one in sixteen is known to have suffered some disaster, from severe pain to death. He thinks large injections are more likely to produce embolism, abscess, and sloughing than small ones. There is no evidence that embolism of any other organ than the liver has occurred. Strong injections are open to the same objections as large ones, except that they are less likely to produce embolism. Pain depends on the situation of the pile; most pain occurs if it is near the verge of the anus.

The conclusions are that the operation is a proper one for selected cases. The best agent is carbolic acid and oil or glycerine, one part to ten, twenty, or thirty. If glycerine is used, morphine, chloral, or iodoform may be added for an anodyne. The proper quantity to inject at one time is two to four drops, and the operation may be repeated every four to ten days. The surface should be protected with a smearing of oil or vaseline, and the hypodermic needle should be kept in place some minutes after the injection to prevent return of the fluid upon the surface. A very sharp needle should be used, and the injection made slowly. The treatment should be used for internal piles only, and but one pile at a time should be attacked. The patient should be kept in bed eight to ten hours after each injection to avoid hæmorrhage. The rectum may be tamponed firmly above the pile to prevent hepatic embolism, the tampon being kept in place twenty-four hours after the operation, but this procedure is hardly necessary unless the stronger injections are employed. Finally, he considers the operation not as safe or eligible as the ligature, but when performed with care as good as any other operation except the ligature.

MEDICAL NOTES.

— We print this week a letter from Dr. Bigelow to the London *Lancet* upon the subject of litholapaxy. It relates especially to an effort of Sir Henry Thompson to appropriate the discovery of rapid lithotrity. That such an attitude is wholly indefensible has been clearly shown by the editor of that journal.

— We are happy to learn that Dr. Knight has so far recovered from his protracted illness as to be able to resume practice.

PHILADELPHIA.

— Dr. John H. Brinton removed a large vesical calculus from a man fifty-six years of age at the clinic of the Jefferson Medical College Hospital a short time ago. The stone weighed four ounces and three drachms; it was phosphatic and soft, and had to be crushed previous to extraction. The patient died on the third day, apparently of exhaustion. At the same clinic he also operated by the lateral method upon a boy of nine years, and removed a stone weighing one ounce and fifteen grains, consisting of urates. The boy made a speedy recovery. A large stone was removed at the Women's Hospital by colpo-cystotomy; being too large to be removed entire, it was perforated by a drill operated by the dental engine, and afterwards crushed with forceps. The operation was successful, but the patient died.[1]

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[1] The case will be found reported in The American Journal of the Medical Sciences for January, 1889, page 143.

CHICAGO.

— The Chicago Medico-Historical Society is now, through the excellent editor of the Medical Register, Dr. Graham, gathering information for the fifth annual volume of that publication. This has become one of the solid institutions of the profession of the city and is fast becoming such among the profession of the State. Of course the chief feature of the publication is the list of regular physicians of the city. This is prepared with great care by the editor and committee of publication, and is passed upon by the society in open meeting, so that the list, as it is finally published, is as near a correct and fair one as it can well be made. The list modestly purports to contain the names of "physicians in Chicago who have been accredited to the Medico-Historical Society as in good and regular standing according to the Code of Ethics of the American Medical Association, and whose names are liable to excision from the list for violation of the Code." Doubtless each list has contained the names of men guilty of violation of the Code; and probably some names have been unjustly stricken off. The society has been often charged with acting unwisely and unjustly, but in hardly a single instance where the regularity of a practitioner has been passed upon has there been any ground for the charge that the society has acted otherwise than with care, moderation, and magnanimity. The policy has been to admit the names of all men against whom there is no flagrant charge of irregularity, rather than exclude one unjustly. That this policy has been adhered to is shown by the tide of professional criticism upon the annual list — the animadversions being almost solely against the society for admitting bad names, rather than the omission of good ones. The list has each year increased in the good estimation of the profession, and its high character will be maintained so long as the society continues to act with the discretion that has characterized it in the past. The list of the State at large is made up with the coöperation of the State Medical Society, a committee being appointed each year to act in conjunction with the regular committee of the Medico-Historical Society. The State list cannot be as full and accurate as the city list, but each year it is being made more complete, and already the work has shown the resolve of the state society to coöperate with our local organization to be one of the most sensible and successful steps ever taken. At the recent annual meeting of the society the president, Dr. S. Wickersham, was reëlected. The officer of editor is a permanent one, and has been filled by the present incumbent three years. There are about fifty members.

ST. LOUIS.

— A most excellent article on the low death rate of St. Louis, by Dr. A. J. Steel, appears in the St. Louis *Courier of Medicine* for May.

— There is some fear that yellow fever may break out among us during the coming summer, for two reasons. First. On account of the great number of negroes from the yellow fever districts, who have stopped here, with their clothing, bedding, and furniture, on their way to Kansas. Second. Because some few cases of it originated here last summer. These patients, however, contracted it from those bringing it from the South. This expectation at first sight seems justifiable, for we accept the theory that the disease is communicated by fomites; these are here in abundance, — blankets, etc., of the refugees, — and we know by sad experience that the yellow fever germ may act with fatal malignancy here during our warm months, as last summer Dr. H. C. Davis, at that time in charge of our quarantine hospital, and three of those employed about the place died of undoubted yellow fever, contracted while at the institution. Thus it seems certain that the germs of the disease are here, and that the coming season may furnish an atmosphere in which they may become active. We have been trusting in the severity of our winter to insure us against what has very suggestively been called the "Jack of spades;" but the case of the Plymouth, cited in the JOURNAL for April 10th, has shaken our confidence in the efficacy of cold. Among the profession there is no apprehension, yet the health department has taken precautions in order to avert the danger, and to be prepared in case an emergency should arise. The buildings at the quarantine hospital, which were used last year for the treatment of yellow fever, have been burned, and ones of frame are to be erected. Our health officer, Dr. George Homan, represented the St. Louis Board of Health at the Sanitary Council of the Mississippi Valley, and in a few days will make a report of their transactions, with suggestions upon the subjects of quarantine etc., for the purpose of rendering our sanitary measures as perfect as possible.

— A medical fraternity has recently come into existence. It is to be called the Beaumont Medical Club, after the distinguished physiologist of that name who made St. Louis his home. Its membership, of course, is small as yet: but those who compose it are active, enterprising, educated men, calculated to make the association useful and respected. The object of the club is to establish annual lectureships, by which the members shall be kept informed upon the most recent thought of the day. Its officers are Dr. G. F. Gill, president; Dr. J. N. Love, vice-president; Dr. T. B. Taylor, secretary; and Dr. G. Homan, treasurer.

CORRESPONDENCE.

LITHOLAPAXY. — LETTER FROM DR. BIGELOW TO THE LONDON LANCET.

TO THE EDITOR OF THE LANCET: — The *Lancet* of February 1st contains a paper by Sir Henry Thompson, entitled A Lecture on Lithotrity at one or more Sittings. In another communication, February 15th, he promises to give his views more completely "in the fifth edition" of his Clinical Lectures, "now going through the press." The publication of this volume will be looked for with the more interest because the Lecture on Lithotrity fails to give a clear exposition of the author's existing views. It mixes new and old ideas, its tendency being to obliterate rather than define the line between what has been done by lithotrity hitherto and what can be accomplished now; leaving the reader uncertain how far Sir Henry discriminates between the new and old methods.

The new operation enlarges the range of lithotrity, and encroaches upon that which has hitherto been regarded as belonging exclusively to lithotomy. This is all I claim for it. Cases can be relieved by litholapaxy which would not have been treated by the old lithotrity; as, for instance, one case, where eighteen hundred and two grains of soft stone were removed at three sittings, one of nearly four hours' duration, the patient travelling home four days afterwards. Such a result, till now wholly unprecedented, would have been before regarded as bordering on the impossible. Experience alone can decide the limits of the new operation.[1] I am surprised that Sir Henry should attribute to me a disposition " to make the rule absolute to remove at one sitting an entire stone, no matter how large it may be, or what may be the condition of the patient." He adds: "Invariable conformity to such a rule, I do not hesitate at the outset to say, will lead to results which, though often successful, will not seldom be disastrous." This is obvious.

In attempting to identify the old operation and the new, Sir Henry relies mainly upon his having used Clover's form of Crampton's instrument, with which Sir Philip, before 1846, drew " upwards of two drachms of pulverized calculus at once from the bladder."[2] He dwells much on what he calls "that useful instrument, the aspirator of Clover." It is figured in his former works with half a dozen differently curved catheters attached to it. He now figures it (see *Lancet*) with "a slight modification," as he says, based upon what he calls a "hint" from my "aspirator." It is quite extraordinary that Sir Henry should claim such efficiency for Clover's apparatus. Except in cases where the prostate is so enlarged that the bladder retains even sand, his is the only voice, so far as I know, that has spoken in its favor.[3]

[1] So early as 1846 Sir Philip Crampton said: "It appears, then, that cystotomy and lithotrity are not to be considered as rivals, and that the question as to which of the operations should be the rule and which the exception should never be brought into discussion; each operation has its special province, the boundaries of which (if, indeed, they admit of being fixed at all) can be determined only by a comparison of a vast collection of facts, carefully noted, and, above all, faithfully reported and properly authenticated." (Dublin Quarterly Journal of Medical Science, vol. i., 1846, page 25.)

[2] Op. cit., page 22.

[3] For the information of those who have not seen my paper, I here cite the latest authorities on this point: —

(A.) " We may here say, without fear of being accused of exaggeration, that evacuating injections practiced after sittings of lithotrity have no apology for their use. *The whole surgical arsenal invented for their performance is absolutely useless. . . . . It should be well understood that the best of evacuating catheters is worthless.* . . . . If a fragment is already too large to pass the urethra easily, it will pass the calibre of a catheter much less easily, no matter how forcible the suction." (Article Lithotritie, by Demarquay et Cousin, in the Nouveau Dictionnaire de Médecine et de Chirurgie pratique, Paris, 1875, pages 693, 694.)

(B.) "Having used it [Clover's apparatus] very frequently, I would add that it is necessary to use all such apparatus with extreme gentleness, and *I prefer to do without it*, if possible." (Sir Henry Thompson, Practical Lithotrity and Lithotomy, 1871, page 215.)

(C.) "*All these evacuating catheters are little employed.* They require frequent and long manœuvres, which are not exempt from dangers; besides, *they give passage, as a rule, only to dust, or to small fragments of stone, which would have escaped of themselves without inconvenience to the urethra.*" (Article Lithotritie, by M. Voillemier, Dictionnaire encyclopédique des Sciences médicales, 1869, page 733.)

(D.) "In short, the 'evacuating apparatus' and the evacuating method hitherto employed do not evacuate. This fact is beyond question." (Litholapaxy, etc., by Henry J. Bigelow. London: J. and A. Churchill. 1878. Pages 6, 7.)

Sir Henry Thompson also testifies to the inefficiency of Clover's instrument in admitting that when, in the old lithotrity, he wanted to evacuate the fragments as rapidly as possible he employed several sittings. "It is desirable," he says (Clinical Lecture, Lancet, January 8, 1876, page 38), "to treat any cystitis that may occur during the course of the sittings, especially if it is severe, by freely crushing the stone without delay. . . . . Under thes

Clover's instrument is a very good bladder-washer. But as an evacuator of anything but sand and minute fragments that can also pass the urethra without it, it is unequivocally worthless. It cannot be otherwise. Its size, with its collar, is only No. 21 French calibre, through which nothing of importance can escape from the bladder. In fact, to adapt it to the new system, Sir Henry has been compelled to enlarge its calibre from 21 to 26. Again, the bulb of Clover is so weak that in a vertical position it cannot expand to its own full dimensions; much less can it aspirate effectively. For this slender bag Sir Henry has now substituted a bulb, "stiff," as he describes it, like mine. The short curve which I had selected from the arsenal of old catheters and sounds for the end of my curved tube he now discovers to be the "more generally useful form."[1] He has also adopted my terminal trap below the bulb. With these modifications, he gives what he entitles "an admirable illustration of the existing method." This flattering adoption of the essential features of my plan, which Sir Henry calls "taking a hint," is rather like taking the apparatus. If not, let Sir Henry endeavor to evacuate a stone of moderate size with "Clover's original instrument" even as now "slightly modified" by him, omitting only the "stiff" bulb and enlarged tube.[2]

Although my pump acts perfectly, the operator will doubtless modify it a little to suit himself, adopting the necessary conditions of an adequate exhaust of some sort, an adequate evacuating tube, and an efficient trap. I find also that an elastic tube interposed between the bulb and the bladder, to avoid the jar of pumping, is desirable.

But what I insist upon, as characterizing the new lithotrity, is: —

(1.) A practical recognition of the tolerance of the bladder, which is far less sensitive to instruments than to fragments, with the obvious corollary that, when the operator crushes a stone, it is better to remove the fragments by protracting the operation than to leave them, as has been hitherto the usual practice of distinguished operators, including Sir Henry Thompson; and

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circumstances," he continues, "I place the patient under the influence of ether, crush freely all the large and sharp pieces, and wash out the débris with Mr. Clover's aspirator."

But as Clover's instrument evacuates inefficiently, Sir Henry is compelled to add: "If some large pieces still remain after the fresh crushing, the former symptoms of cystitis reappear in two or three days, and may be again relieved by another sitting, this time altogether or nearly so, as a succeeding crushing will, no doubt, dispose of the principal part of the stone, and leave at all events no considerable fragments."

[1] Hitherto Sir Henry has designated as the most useful form a squarely cut extremity. (The Diseases of the Prostate, etc., by Sir Henry Thompson, etc., etc. Fourth edition. Henry C. Lea: Philadelphia. 1873. Page 337.) "In most cases," he says, "the best kind is that which is cut transversely at the distal end." Such an extremity is really the worst, because it is at once closed by the bladder.

[2] Sir Henry does not seem to appreciate the full use of a large tube. This is shown by his figure of the "modified" instrument (see Lancet, February 1st), where, although the calibre of the evacuating tube is 26, its hole for the admission of fragments is but little more than half its diameter. Where lies the utility of so large a tube, if only small fragments can get into it? This inadequate hole is a relic of the Clover instrument.

As regards the size of the tube, the operator can fairly take advantage of the full size of the urethra. The larger the tube, the larger will be the fragments released. I have employed, without any objectionable result, a 30 French calibre, often 31; and I prefer a straight tube. Although these larger sizes are not essential to the operation, they admit many fragments that would otherwise have to be crushed.

(2.) The use of a tube large enough to afford an easy passage from the bladder, not (as with Clover's instrument) for sand, which does not need it, but for detritus, which, owing to its size or quantity, would not pass the urethra without it; this being an application of Otis's discovery of the previously unrecognized capacity of the urethra, of which the meatus is the narrowest part.

This is not in accordance with the former teaching of lithotritists. At the late lithotrity meeting of the Medico-Chirurgical Society there was no question about the traditional few minutes,[1] as the limit of time beyond which it is not usually safe for the lithotritist to try the patience of an average bladder. The error is a natural one. Surgeons have hitherto attributed to instruments of polished metal the damage really due to the roughness of fragments. With Sir Henry Thompson, they believed that "the mere sojourn of the instrument in the bladder is a source of irritation precisely corresponding to the time, within certain limits, it continues there. Anything, therefore, that will diminish the time of the operation and the amount of movement and concussion, will necessarily give a greater prospect of success."[2] This mistake prevailed for half a century, because the real cause of the injury could not be ascertained. There was absolutely no way to extract fragments large or abundant enough to make trouble, and to show what would be the behavior of the bladder when thus relieved. The new instrument first accomplished the evacuation of bulky débris, and by removing this source of inflammation disclosed the comparative harmlessness of the lithotrite and the pump. The discovery of the tolerance of the bladder could have been made in no other way. What Sir Henry Thompson would call a little modification of method involved an important difference in result, making it easy to accomplish what was before impracticable, — a trite occurrence in the history of inventions.

There can be no doubt about Sir Henry Thompson's teaching. So lately as 1876 he writes: "You heard me say in the theatre the other day . . . . that you should not encourage the early passing of the fragments. They rest at the bottom of the bladder. I usually keep the patient in bed, and pretty much on his back, for thirty-six hours or so afterwards; he should, at all events, for that period of time pass urine in that position, so that the sharp, angular fragments are left at the bottom of the bladder, and are not forced into the urethra."[3] With unparalleled opportunities for observation, Sir Henry seems to have been well satisfied with the old lithotrity and its instruments. In the lecture to which he refers for an exposition of his latest views, he says: "I do not mean to say that any striking novelties in the instruments, or in the system of operating, have recently been achieved. The mechanical procedure has probably long been too nearly perfect to permit us to expect results of that kind."[4] When this conservative view was again expressed at the lithotrity meeting of the Medico-Chirurgical Society in 1878,[5] it elicited nothing from

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[1] "A sojourn, say of two minutes, in the bladder, which I will allow you, although you know I do not occupy so much time myself." (Clinical Lectures on Diseases of the Urinary Organs, etc., by Sir Henry Thompson, etc., etc. Fourth edition. London. J. and A. Churchill. 1876. Page 188.)

[2] Op. cit., page 172.

[3] Op. cit., page 189. See also page 190.

[4] Clinical Lecture, Lancet, January 8, 1876.

[5] The Lancet, March 16, 1878, page 385.

Sir Henry concerning the tolerance of the bladder to instruments, the advantage of removing all fragments, or any other essential feature of the new operation.

I may here allude to a small matter. Sir Henry insists upon the importance of making the movements of the bulb keep time with the respiration of the patient. I think this will be found both unnecessary and impracticable. The first part of any long aspiration, whether it is or is not synchronous with the breathing, suffices to clog the orifice of the tube with débris; the rest of the aspiration is then useless. Nor does a "stiff" bulb need to be aided by the diaphragm of the patient. Nor need danger be apprehended from any expulsive effort to which the bladder is accustomed, like respiration, cough, or even vomiting. In fact, this last is not unusual with an anæsthetic: I let the water off while it continues.

Although a long stroke is occasionally useful, I commonly pump at the rate of about twice in three seconds, moving only about two ounces of water back and forth. The main difficulty is to find for the extremity of the tube the best place for gathering fragments, and to prevent its obstruction, whether by fragments or by the bladder. This somewhat nice adjustment is experimental, and, I think, is easiest when the left hand, holding the evacuating tube, rests on the pubes. The manipulation is provided for in my instrument by the intervention, between the evacuating tube and the bulb, of an elastic tube eight inches long. If the operator prefers, it may be shorter; my first one was only two inches long. The facility and delicacy of the manipulation, it is needless to say, are greatly impaired if the bulb be rigidly attached to the evacuating tube, as in Clover's apparatus and Sir Henry Thompson's figure, — especially if, as there, it is placed above the tube.

In my present method of evacuating the débris, the bulb full of water is coupled with the evacuating tube introduced into the empty bladder; and when the pump is in action water is added to distend the bladder, if its walls prove to be slack enough to fall into the eye of the tube and obstruct it. The earlier cases naturally occupied more time than is now necessary; but I still find, as at first, that the most time is spent in searching for and removing the last fragment, and in incidental delays, — not in evacuating the mass of débris, which is drawn out with surprising rapidity. With ether, rapid surgery has become less essential; and lithotrity is now, perhaps, less than any other surgical operation, to be performed against time. I doubt whether the hurried operation mentioned by Sir Henry Thompson would bear frequent repetition even by himself. There would seem to be need rather of deliberation than of haste. A remaining fragment may be easily overlooked, and in less skilled hands haste might be mischievous. Removing a stone of one hundred and twenty grains, with two lithotrites and an assistant to clear them, is mainly the operation of Fergusson, who relied for evacuation on repeated withdrawals of the loaded instrument.

Litholapaxy is now no novelty in America; and its success here will, I think, recommend it elsewhere. Allow me to add a few recent examples.

An operation which I performed January 26th, in the case of a medical gentleman, aged sixty-seven, lasted fifty minutes, and consisted of two crushings, occupying fifteen minutes; three evacuations of fragments, nine minutes; changes and other delay, twenty-six minutes. Two hundred and sixty grains of phosphatic stone were thus removed. The patient had no trouble from the operation, and on the thirteenth day went home to the country, well. There were no fragments left in the bladder.

In another case, February 10th, that of a man aged fifty years, one diameter of the stone measured 1⅝ inches. The operation lasted one hour and twenty-one minutes. The crushings occupied twenty minutes, the evacuation of fragments thirty, while the changes, etc., were recorded at thirty-one minutes. Three hundred and two grains of hard oxalic calculus were crushed and drawn out, — with some delay in the operation, due to fragments lodged behind a high prostate. I was unable to break the stone with Charrière's, or rather Collin's, instrument. The patient had no unfavorable symptoms, hardly a trace of blood, and no fragments were left.

This case, which involves, so far as I know, the largest hard stone yet evacuated at one sitting, is an example of what can be done by the new process. In evacuating such stones, it need only be said that the smaller the tube the more minutely must the fragments be broken, and the greater will be the liability to obstruction. Small stones, common in these later days of lithotrity, especially soft ones, are not infrequently crushed at one sitting, by any lithotrite, without ether, and, if reduced to sand, may really need no tube to evacuate them.

The following case is as good a test of the new operation as I could wish:

The patient, aged thirty-three, entered the hospital October 31st, about four months and a half ago. His condition was so bad that it was thought unadvisable to attempt any operation, even lithotomy. The urine was ammoniacal and fetid, always containing a large quantity of blood; also pus and mucus to the amount, sometimes of nearly one half by measurement. Micturition was frequent, occurring at intervals of from ten minutes to half an hour, day and night, during much of this time. The straining was excessive, ineffectual, and productive of great suffering. Three unsuccessful attempts having been made on previous days, a sound was first introduced into the bladder, under ether, November 10th. The next day the temperature rose to 103°, and remained thereabouts till the fourth day, when another complication presented itself. The left knee became suddenly inflamed and swollen. It has remained so ever since. During the next two months the temperature ranged from 100° to 102° daily, afterwards slowly receding, though the other symptoms did not abate.

I saw the case, for the first time, March 7th. With so diseased and irritable a bladder, it was evident that litholapaxy could be considered only as an experiment. It was a last resort, being perhaps better than lithotomy. Should it succeed, it would testify strongly in favor of the new method; should it fail, it could hardly be counted against it.

On the 9th of March I operated. In the neighborhood of the triangular ligament an obstruction prevented the passage of sounds larger than a No. 15 French calibre. After snipping the meatus, this obstruction was divulsed by Voillemier's instrument, and it then admitted a full-sized lithotrite, and a straight tube 29 French, for which, later in the operation, 30 was substituted

Two hundred and forty grains of stone were now slowly and carefully removed in sixty-eight minutes. An abundance of flocculent and fibrinous material concealed the fragments when lying in a basin, and testified to the inflammation.

At four P. M., four hours after the operation, the temperature had fallen from 99° to 96°. In eight hours more, at midnight, it had risen to 103° with a pulse of 130, where it remained through the second day, the tongue being red, smooth, and dry. A general pain in the region of the bladder and urethra required opiates. Yet on the third day the tongue became moist, with a light coat; the temperature had fallen to 99°, and the pulse to 84. This improvement still continues. The patient has had no such comfort for many months. During the first week after the operation, he passed his water six times in twenty-four hours almost without pain, and there has been no tenderness over the bladder. The urine contains very little sediment, and, apart from the knee, which remains as it was, the patient is rapidly convalescing.

A calculus can of course be crushed with any lithotrite. I have only to add a few words regarding the new one. Sir Henry does not seem so heartily satisfied with this instrument of mine as I could wish, nor, in fact, with anything connected with the new operation, unless possibly its results. This lithotrite, he says, is "surely some resuscitated relic of the early history of lithotrity! . . . . reminding me very forcibly of the terrible engines used by Heurteloup."[1] The present tendency of London lithotrites is to small size, because it has been believed that the smaller the instrument the less the danger. With long operations, large stones, and the general use of ether, they will again be larger. With size we gain power. There is no more reason for employing small lithotrites to empty, under ether, an average bladder than small catheters to draw the water. In fact, the surgeon who becomes accustomed to the efficient action of a large lithotrite does not willingly relinquish it; a little more care is necessary in introducing it, but, if non-impacting, it need not be withdrawn, loaded with sharp fragments, through the neck of the bladder, at short intervals, to be cleaned by an assistant.

My new lithotrite proves to be very efficient, and I am recently indebted to London makers (Weiss and Son) for an instrument that works perfectly. It is of a good size for general use; a smaller one, if preferred, may be used in special cases. It can be made of any size. This instrument is non-impacting, and keeps clean in the bladder for an indefinite time. Its rounded tip protects the bladder in a protracted operation, — as it also does the prostate during introduction. For the old wheel, which hurts the hand in long crushing, the ball is a welcome substitute. And unless the human hand undergoes some modification of what are now its easiest movements, the system of *a right-hand lock*, here first employed, must, as I believe, whatever be the size of the lithotrite, supersede in time any previous method of locking.

HENRY J. BIGELOW.

BOSTON, *March* 25, 1879.

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[1] Of Heurteloup's operation Crampton says: "Nothing could exceed the dexterity and skill, unless it be the gentleness, with which it was performed." Op. cit., page 17.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 17, 1879.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Annual Death-Rate per 1000 during the Week.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Pneumonia.	Scarlet Fever.	Diphtheria and Croup.	Diarrhœal Diseases.
New York	1,085,000	499	23.98	19.24	6.01	8.42	2.61	1.80
Philadelphia	—	264	—	9.47	5.30	1.89	1.89	1.14
Brooklyn	564,400	191	17.65	18.32	10.47	4.71	4.19	1.57
Chicago	—	138	—	23.19	8.70	7.25	9.42	—
St. Louis	—	100	—	16.00	4.00	1.00	3.00	2.00
Baltimore	365,000	115	16.42	21.74	5.22	9.57	8.70	—
Boston	360,000	121	17.52	13.22	14.90	2.48	1.65	4.13
Cincinnati	280,000	90	16.76	14.44	6.67	8.89	—	2.22
District of Columbia	160,000	70	22.81	12.86	8.57	5.71	1.43	1.43
Cleveland	—	45	—	31.11	8.89	6.67	8.89	2.22
Pittsburgh	—	32	—	15.63	3.13	—	—	6.25
Milwaukee	—	33	—	42.42	6.06	3.03	30.30	3.03
Providence	101,000	40	20.65	10.00	15.00	5.00	5.00	—
New Haven	60,000	21	18.25	4.76	4.76	—	—	—
Charleston	57,000	24	21.95	8.33	4.17	—	—	8.33
Nashville	27,000	14	27.03	7.14	14.28	—	—	7.14
Lowell	53,300	16	15.65	—	12.50	—	—	—
Worcester	52,500	13	12.91	7.69	23.08	—	—	—
Cambridge	51,400	15	15.21	13.33	—	—	13.33	—
Fall River	48,500	—	—	—	—	—	—	—
Lawrence	38,200	13	17.75	15.38	7.69	—	7.69	—
Lynn	34,000	14	21.48	14.28	21.43	—	7.14	—
Springfield	31,500	7	11.59	42.86	—	14.28	—	—
New Bedford	27,000	14	27.03	14.28	—	—	—	—
Salem	26,400	13	25.68	23.08	15.39	—	—	—
Somerville	23,350	11	24.56	—	—	—	—	—
Chelsea	20,800	8	20.06	—	—	—	—	—
Taunton	20,200	4	10.32	—	25.00	—	—	—
Holyoke	18,200	8	22.92	25.00	—	—	25.00	—
Gloucester	17,100	6	18.29	16.67	16.67	—	—	16.67
Newton	17,100	—	—	—	—	—	—	—
Haverhill	15,300	6	20.45	16.67	33.33	—	—	16.67
Newburyport	13,500	5	19.31	—	—	—	—	—
Fitchburg	12,500	3	12.51	33.33	—	—	33.33	—

One thousand nine hundred and forty deaths were reported: 324 from the principal "zymotic" diseases, 317 from consumption, 169 from pneumonia, 100 from scarlet fever, 77 from diphtheria and croup, 54 from bronchitis, 34 from diarrhœal diseases, 29 from whooping-cough, 20 from typhoid fever, 20 from erysipelas, 19 from measles, 13 from cerebro-spinal meningitis, 10 from malarial fevers, two from intermittent fever, one each from remittent, congestive, and typho-malarial fever, none from small-pox: indicating a decreased mortality from all reported causes except bronchitis, cerebro-spinal meningitis, measles, scarlet fever, and pulmonary consumption, the increase in the three last mentioned being considerable. The progressive decrease in pneumonia of the last several weeks continues. From *bronchitis*, 30 deaths were reported in New York, six in Philadelphia, four in Brooklyn, two in St. Louis, District of Columbia, Cleveland, and Cambridge, one in Boston, Pittsburgh, Nashville, Worcester, Salem, and Somerville. From *whooping-cough*, 17 in New York, six in Brooklyn, one in Chicago, St. Louis, Boston, Cincinnati, Pittsburgh, and Springfield. From *typhoid fever*, six in Philadelphia, three in New York, two in Baltimore, Boston, and New Bedford, one in Chicago, District of Columbia, Milwaukee, New Haven, and Salem. From *erysipelas*, four in New York and Brooklyn, two in Chicago, St. Louis, and Boston, one in Philadelphia, Cincinnati, District of Columbia, Cleveland, Salem, and Springfield. From *measles*, five in Cleveland, four in New York, three in Brooklyn, two in Baltimore and Pittsburgh, one in St. Louis, Boston, and District of Columbia. From *malarial, intermittent, remittent, congestive, and typho-malarial fevers*, six in St. Louis, four in New York, two in Brooklyn and Chicago, one in District of Columbia. In seventeen of the nineteen cities of Massachusetts, the mortality from diphtheria, croup, and whooping-cough was less than for the previous week; from the other "zymotic" diseases, and from consumption and pneumonia, greater, — from the latter but slightly.

The weather was generally reported as being unseasonably warm, especially during the first half of the week, with slight showers and rain, the meteorological record in Boston (latitude 42° 21′, longitude 71° 4′) for the week being as follows: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in Inches.
May 11	30.325	53	71	44	56	37	48	47	O	E	S	0	10	9	F	C	C	—	—
" 12	30.152	65	80	44	78	41	69	63	SW	SW	SW	8	16	13	C	C	C	—	—
" 13	30.055	71	84	61	78	50	79	69	SW	SW	SW	14	10	7	H	H	F	—	—
" 14	29.982	70	86	60	83	38	69	63	SW	S	SW	12	18	14	H	H	C	—	—
" 15	29.993	67	79	57	88	48	79	72	SW	SW	S	12	20	5	O	F	F	1.33	.05
" 16	29.944	62	68	56	100	100	84	95	E	SE	SW	2	8	9	G	R	C	6.34	.17
" 17	30.057	67	80	62	97	66	79	81	SW	SE	SW	5	3	8	O	F	F	—	—
Week.	30.071	65								SW		1774 miles.						7.67	.22

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; T., threatening.

For the week ending April 26th, in 149 German cities and towns, with an estimated population of 7,517,640, the death-rate was 27.0, a decrease of 1.2 from the previous week; typhoid fever and diarrhœal diseases showing an increased mortality, the other "zymotics" and pulmonary consumption less. Three thousand nine hundred and five deaths were reported: 609 from consumption, 502 from acute diseases of the respiratory organs, 176 from diarrhœal diseases, 130 from diphtheria and croup, 57 from whooping-cough, 55 from typhoid fever, 45 from scarlet fever, 33 from puerperal fever, 31 from measles, six from typhus fever, one from small-pox (in Dantzic). The death-rates ranged from 19.8 in Kiel to 46.1 in Brunswick.

For the week ending May 3d, in the 20 English cities having an estimated population of of 7,383,999, the death-rate was 23.4, a decrease of 1.5 from the previous week, showing a decline in all the prominent causes of death except from diarrhœa, fever, and small-pox, which remained almost unchanged, and from measles and scarlet fever, which were somewhat more fatal. Three thousand three hundred and fourteen deaths were reported: 429 from diseases of the respiratory organs, 132 from whooping-cough, 88 from measles, 87 from scarlet fever, 43 from diarrhœa, 39 from fever, 24 from diphtheria, 10 from small-pox (in London). The death-rates ranged from 17.4 in Bristol to 28.4 in Manchester. Small-pox was less fatal in Dublin (six deaths). Edinburgh and Glasgow showed very low death-rates (20 and 21).

Cases of fever are becoming fewer in St. Petersburg, while the mortality from typhus has decidedly increased in Astrachan and Adrianople; no new cases of the plague have been reported. The sanitary control of the Mecca pilgrims is now so rigid that Dr. Rezak reports an absence of cholera among them, although remittent fever, pneumonia, and diarrhœal diseases have been not uncommon; he thinks that the cases reported as cholera were not such.

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ERRATUM. — Page 684, instead of *Dr.* read *Mr.* Angell.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The next meeting will be held June 2d, at the hall of the Medical Library Association. Reader, Dr. Bixby. Subject, A Case of Shot Wound of the Bladder, with Recovery. Shot Wounds of the Bladder in the Late War of the Rebellion. F. C. SHATTUCK, *Secretary.*

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, 19 Boylston Place, on Saturday evening, May 31st, at seven and a half o'clock. The following papers will be read: Dr. C. P. Putnam, Cases of Hip Disease under Treatment. Dr. Aaron Young, Analogy of Rabies and Venom Poisoning. Dr. J. Collins Warren, A New Point in the Anatomy of the Skin.

Supper at nine o'clock.

The Gynæcological Society of Boston. — The next regular meeting of the society will be held at Medical Library Rooms, 19 Boylston Place, on the first Thursday of June, at two o'clock P. M. The following papers are promised: Pelvic Abscess, by A. P. Weeks, M. D. Puerperal Metritis, by A. L. Norris, M. D. The profession are invited.

Henry M. Field, M. D., *Secretary.*

Middlesex East District Medical Society. — At the annual meeting, held at Woburn, May 14, 1879, the following officers were elected for the ensuing year: President, Francis F. Brown. Vice-President, Daniel W. Wight. Secretary, J. Richmond Barss. Treasurer and Librarian, John O. Dow. Auditor, George E. Putney. Reporter, Daniel W. Wight. Councilors, John M. Harlow, Frederick Winsor, W. S. Brown. Censors, A. H. Cowdrey, W. F. Stevens, G. E. Putney, F. W. Graves, G. P. Bartlett. Commissioner on Trials, A. H. Cowdrey. Councilor for Nominating Committee, J. H. Harlow.

J. Richmond Barss, *Secretary.*

Books and Pamphlets Received. — A Clinical Treatise on Diseases of the Liver. By Dr. Fried. Theod. Frerichs. In three volumes. Vol. III. Translated by Charles Murchison, M. D., F. R. C. P. New York: William Wood & Co. 1879.

Ophthalmic Out-Patient Practice. By Charles Higgins, F. R. C. S. Second Edition. Philadelphia: Lindsay and Blakiston. 1879.

The Laws of Therapeutics; or, The Science and Art of Medicine. By Joseph Kidd, M. D. Philadelphia: Lindsay and Blakiston. 1879.

Minutes of the Medical Society of the County of New York, 1806–1878. A. E. M. Purdy, M. D. April. Part I. New York. 1879.

Supplementary Rectal Alimentation, and especially by Defibrinated Blood, as applicable to a large Range of Cases in which Nutritive Enemata have not heretofore been Employed. By Andrew H. Smith, M. D. (Archives of Medicine.) 1879.

The Therapeutical Society of New York. (New York Medical Journal, April, 1879.)

Demonstrations of Anatomy: Being a Guide to the Knowledge of the Human Body by Dissection. By George Tiner Ellis, Emeritus Professor of Anatomy in University College, London. From the Eighth and Revised English Edition. Philadelphia: Henry C. Lea. 1879.

Atlas of Histology. Part II. By E. Klein, M. D., F. R. S., and E. Noble Smith, L. R. C. P., M. R. C. S. Philadelphia: J. B. Lippincott & Co. London: Smith, Elder & Co. 1879. (A. Williams & Co.)

Chloral Inebriety. Read before the Kings County Medical Society, April 15, 1879. By J. B. Mattison, M. D. Brooklyn, N. Y.

How to Elevate the Standard of Medical Education and Medical Teaching. By A. B. Cook, A. M., M. D. (Reprint from the American Medical Bi-Weekly.) Louisville, Ky. 1879.

Neurological Contributions. By William A. Hammond, M. D., assisted by William J. Morton, M. D. Vol. I. No. 1. New York: G. P. Putnam's Sons. 1879.

An Address commemorative of the Life and Writings of the late Professor Charles Frick, M. D. By Frank Donaldson, M. D. Baltimore. 1879.

Proceedings of the Southern Illinois Medical Association. 1879.

Nouveau Guide pour l'Etablissement thermal d'Ischl. Par le Dr. Gustave de Kottowitz. Vienna. 1879.

Typhoid Fever: Its Cause and Extent in Melbourne. Also Remarks on a Review of the Report on the same Subject. By William Thompson, F. R. C. S. Melbourne, Sidney, and Adelaide: George Robertson. 1879.

Excision of the Epiglottis. By William Porter, A. M., M. D. St. Louis. (Reprint from The American Journal of the Medical Sciences.)

Paresis of the Sympathetic Centres from Over-Excitation by High Solar Heat, long continued and suddenly withdrawn, etc. So-Called Malaria: Its Ætiology, Pathogenesis, Pathology, and Treatment. By Charles T. Reber, M. D- St. Louis: George O. Rumbold & Co. 1879.

On the Treatment of Pregnancy Complicated with Cancerous Disease of the Genital Canal. By G. Ernest Herman, M. R. C. P. London. (Transactions of the Obstetrical Society of London.) 1879.